*** August Meeting Schedule ***

General Meeting: Tues Aug 4th 7:00PM
Granada Hill High School

ST Sig Meeting: Tues Aug 18 7:00PM
Mercury Savings and Loan

Future Meetings

General	ST Sig
Sept 1	Sept 15
Oct 6	Oct 20
Nov 4	Nov 17

Note: Nov. Meeting is Wed not Tue.

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!!! HELP !!!

- Newsletter Editor Needed
- Secretary for General Meeting
- Volunteers for 2 hour shifts at the
  Atari Faire V.2 Sept 19th & 20th

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!!! Tell A Friend !!!

For Each Membership You Bring Into
LA-ACE You Will Earn $5 Credit Towards
Your Membership Renewal Plus The New
Member Will Receive 4 Door Prize
Tickets Free.

*** August Meeting ***

Door Prizes Galore

- AlphaCom Printer W/8-bit Interface
- DBasic w/Manual (Faster than 'C')
- Disk of the Month (First 15)

Video: Courtesy of Hugh Edwards
CAD-3D w/ Tom Hudson

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Hearty LA-ACE Welcome to:

New	Renewals
Walter A. Rogers	Hugh Edwards
Edward W. Forgy	Natalie Riehl
Chuck Sickler	Ed Davenport
	Eric Parker

Thanks for Your Support

****

NEW BBS #

(818) 700-1652

****

June Newsletter Award

Special Award: Ray Maynard

August Disk of Month

#1   DAISY-DOT
By Roy Goldman

Daisy-Dot is an original printing utility that will revolutionize dot-matrix printing with Atari 8-bit computers.

Near Letter Quality along with a simple yet powerful NLQ Font Editor produce professional documents.

Here's a list of features:
- Supports Epson and Star 9 pin printers.
- Compatible with most word processors.
- Up to *4* different graphic densities.
- Prints PROPORTIONAL fonts at up to *8* times the density of draft mode (Print Shop and Typesetter print at a MAXIMUM of only 2 times draft mode!)
- Flexible character spacing manipulation.
- Comes with *5* great fonts:
  - Roman
  - Sans-Serif
  - Script
  - Block
  - Ohio
- Revise and generate fonts using the DAISY-DOT FONT EDITOR, with:
  - Joystick control
  - Printer module
  - Proportional font design
  - Characters up to 19 columns wide and 16 rows high
  - Range of 91 ASCII characters
  - *14* commands

Daisy-Dot comes with clear and complete documentation.

#2   Word Processor

A professional quality word processor for the 8-bit Atari's. Includes features only found in other word processors costing $30-$50. Written in machine language for speed and effeciency.

Here's a short list of features:
- Block move, Block copy.
- Search and replace.
- Headers
- Print formatting
- Full online help

This program comes with clear and complete documentation.

Meeting Minutes
For July 1987

Another great meeting this month, with lots of talk, demos, and help! Also, I'm noticing that most people are showing up at or close to 7 PM, instead of sometime between 7 and 8 PM. Thank you very much, and keep up the good work!

Vice President Jon Dekeles opened the meeting at 7:15PM with a question and answer session, centering mostly on various emulators for the ST. IBM and Atari 8-bit emulators are now available, so you might want to go out and get them. Of course, in order to use the 8-bit emulator, you need a 5 1/4" disk drive, but adding one is not very hard. Also discussed was future plans of Atari, such as the up-coming advertisement blitz and the "bundling" of hardware with software.

Our newsletter editor, JoAnne Dekeles, has resigned due to various reasons. Therefore, we need a new editor as fast as possible. Contact Bill Lurie if you are interested.

Next on the agenda was a short debate on whether or not we should publish the treasurer's report or not. There are a lot of good arguments for (other groups publish theirs) and against it (we have more money than most clubs, so we should not show off). It was resolved that the treasurer shall read the report and leave copies of it at each meeting.

A representative from the B.Dalton Software store in the Northridge Fashion Center took the floor and said that if people from the club would tell them (and in particular, manager Mike Travis) about what software and hardware you would like to buy, they'll try to get it. If they get enough input, they will be able to give LAACE members a dicount! They also donated a copy of Sub Battle from Epyx for the ST.

Jon Dekeles continued his "lessons" on Atari in general. This month was a dicussion of input. Devices that the Atari could get input from, and examples of getting input in various languages was presented. Next month, XIO and DOS. Be there!

Next, yours truly finally gathered his courage and delivered a major demonstration! I did a demo of Lightspeed C for the 8-bit computers (see my review in this month's newsletter). If I may say so, Lightspeed C is an excellent product.

After the break, Jim Abney from Com-Soft demoed a wide-carriage printer from Citizen (yes, the people who make watches). It can do various print types and handle many fonts at the same time. It also emulates various printers (such as Epson). Jim also demoed a product called theDesk-card for the ST. It has a built-in clock, and many familiar desk accessories are now in the Desk-Card!

Mike Hollenbeck displayed his ST Sprite Factory that lets you create objects and then animate them. Unfortunately, he got cut off by time limit, so he will be back next month for a full demonstration.

The door prizes were awarded, and the meeting was adourned.
Prizes:
    SUB BATTLE (ST) - B. Dalton Software
    LORDS OF CONQUEST (8-bit) and
    NINE PRINCES IN AMBER (ST) - ComSoft
    ST SPRITE FACTORY - Mike Hollenbeck
    ABACUS BASIC (ST) and
    TIME BANDITS (ST) - Eric Parker
    COMPUSERVE INTRO PACKS - Bill Lurie
Again, please thank the people who donated prizes by buying their products. This will encourage them to keep donating stuff for you to win!

Reading Analog Data With an ST

by Richard Leinecker
Author of "The Scientific ST"

Part I

All ST owners agree that their computer can run rings around the 8-bit Ataris in most every respect. One missing feature, though, are the pair of built-in analog-to-digital converters, with which the 8-bit computers were equipped. There are many things that the ST is incapable of since these have not been included. With the addition of some simple hardware, however, the ST can gain the ability to read analog data.

You may be wondering about the difference between analog and digital data. Digital data is a set of ones and zeros; a set of transistors in either a high or a low state, wherein the low state approaches zero volts and the high state approaches five volts. These ones and zeros form the digits of a binary number, while a set of four of these digits comprise a nibble, a set of eight comprise a byte, and a set of sixteen of these digits comprise a word.

An analog signal may be at zero or five volts, but it may also be anywhere in between those two voltage levels. Of course analog signals can be at any voltage level above five volts, but for our discussion we will limit ourselves to a range of zero to five volts. Analog data is a problem for the computer because it cannot interpret analog voltage levels, and for this reason, analog to digital converters are used. The analog voltage is converted to a digital number and the microprocessor can then use it in the way that the software requires.

This is the first of two articles covering the subject of analog data reading techniques for the ST. This first article will illustrate the use of voltage comparators to detect an input voltage that exceeds a pre-set reference voltage; the next article will illustrate the use of an analog to digital converter. It would be well to tackle the projects in this article before the next, as these are easier and will give you some construction experience on a simpler level.

A VOLTAGE COMPARATOR

A voltage comparator compares two different voltages. One of the voltages is the incoming signal and the other is a pre-set reference voltage. The particular comparator used in all of the following examples is an LM339, a quad comparator. With this IC, you have four separate gates and can compare up to four separate pairs of voltages.

The LM339 can be configured in either a non-inverting, or an inverting mode. When using the non-inverting configuration, the output goes high when the input voltage exceeds the reference voltage, and when using the inverting configuration, the output goes high when the input voltage falls below the reference voltage. The output does not exhibit a true TTL logic high state. If you want to drive a TTL load, you must connect a 10K resistor between the comparator's output and five volts. For the joystick and parallel ports, the 10K resistor is not necessary as their data bits are internally tied to five volts.

Figure 1 is the schematic for a non-inverting quad comparator. Vcc can be from 2 to 32 volts, according to manufacturer's specifications, but for interfacing with the ST, 5 volts should be used. To change to the inverting mode, reverse the IC connections between pins 4 and 5, 6 and 7, 8 and 9, and 10 and 11. It makes little difference whether you use the inverting or the non-inverting configuration as long as you write your software to interpret the bit(s) correctly.
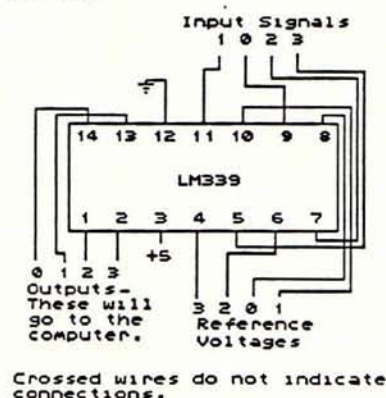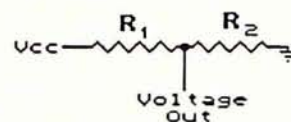

Figure 1

The easiest way to set up a reference voltage for the comparator's operation is with two fixed resistors. The two resistors form a voltage divider between Vcc and ground. The voltage between the resistors is proportional to their resistances. Figure 1 shows a voltage divider and the formula below can be used to calculate the voltage between the resistors.

$$Vout = \frac{R_2}{R_2 + R_1} \times Vcc$$

Figure 2

Many times, the voltage of the incoming signals will be too great. The voltage on the comparator's input cannot exceed Vcc, so this incoming voltage must be dropped anytime it is too high. A voltage divider will attenuate the incoming signal and the preceding formula will allow you to calculate the necessary resistors for the needed attenuation. With the ability to drop any incoming signal, you will be able to sample a wider variety of analog signals, rather than only those that fall between Vcc and ground.

How can you use the comparator circuit to sense analog data? A specific example will illustrate the use of the comparator. A light level meter can be easily made by using a phototransistor as part of a voltage divider. When the light level exceeds a certain, pre-set level, the comparator's output will go high.

The reference voltage is set at 2.5 volts with a voltage divider using two 1K resistors. The input voltage is produced by a voltage divider which is formed by a phototransistor and a 1 megohm resistor. When a certain light level is exceeded, the output of the comparator will go high. To set the device at a different level, you will have to adjust either of the 1K resistors that form the divider. You may insert a 25K potentiometer or experiment with fixed resistors. The more resistance that you insert between the center of the divider and ground, the more light needed to make the comparator's output go high. With less resistance between the center of the divider and ground, less light will be needed to make the comparator's output go high. Figure 3 is the schematic of a joystick version, while figure 4 is the schematic of a parallel port version.
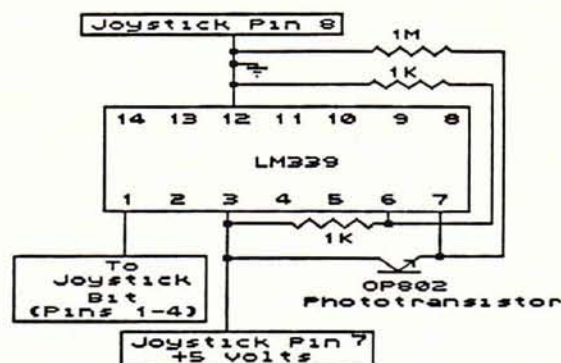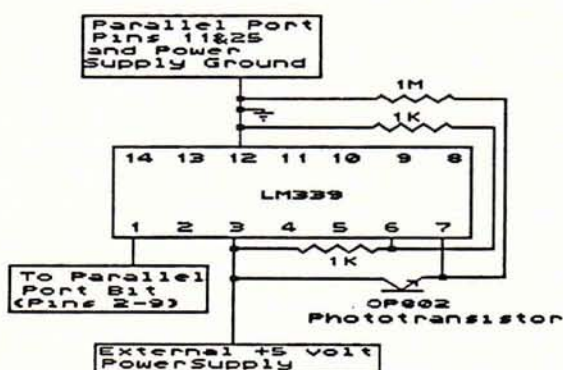
Analog Data (continued...)

Figure 3

Figure 4

You must now decide which port to send the data into. The parallel port is by far the easiest to use. The cartridge port needs both an etched cartridge board and a data buffer. For this reason, a cartridge port version will not be discussed, as that goes beyond the scope of this article. For more information you might want to refer to the book "Your ST Comes Alive!" published by Computer Spectrum. (PLUG!)

If you choose to use the parallel port, you must simply read the data from the port. I will refer to the use of the lower four bits for the sake of this particular discussion, but any bits can be used. If you are programming in C, use the Bconin command to obtain the parallel port data. If any of the data bits read are low, the corresponding comparator outputs are low. If any of the data bits read are high, the corresponding comparator outputs are high. Make sure that pin 11 of the parallel port is tied to ground or it will get "stuck" as the computer times out.

Following is a short program you might try to read data from the parallel port.
unsigned int data;

```
main()
{
  while(!Cconis()){ data=Bconin(0);
        printf("%u\n",data);
  }
}
```

To read the parallel port in BASIC, try the following program.

```
10 X=INP(0)
20 PRINT X
30 GOTO 10
```

If you want to use the joystick port to read the data, you will need to simply read location 3953. This will return a the value of the four bits of the joystick port. Remember to also connect the circuit ground to pin eight of the joystick port.

Good luck in your endeavors. If you come up with a new and unique use for a voltage comparator, please contact me on the Computer Spectrum

BBS, (305) 251-1925. If you have a problem with this project, please feel free to call and leave a message on the BBS, and I will attempt to help you, to the best of my ability. There are several programs with source codes available on sig 2 of the Computer Spectrum BBS. Here is a list of the demo programs available:

COMP_JOY.BAS
  ST BASIC program to read the status of the Joystick bits.
COMP_JOY.C
  Source code for the program below.
COMP_JOY.PRG
  Compiled program to read the status of the Joystick bits.
COMP_PAR.BAS
  ST BASIC program to read the status of the Parallel Port bits.
COMP_PAR.C
  Source code for the program below.
COMP_PAR.PRG
  Compiled program to read the status of the Parallel Port bits.

□

The State of the Board
or how bored is the state of 8-bit users?
by Rich Monosson
LA-ACE BBS SYSOP

In past years, this annual "State of the LA-ACE BBS" has been comprised of a short history (in which I inevitably forgot former SYSOP Bob Keimach's contribution), tips and insights for the experienced user and a tutorial for the new user. For those of you who wanted to see these things here please refer to last August's LA-ACE Newsletter--for not much has changed since then. Instead, this year I want to discuss the overall decline in the number of users and the lack of qualitative contributions from these users.

Three years ago the Atari 8-bit computer and the 8-bit owner/user were on top of the world. Sure Commodore had been a royal thorn in the side, but that bothered few of us. We knew we had the superior machine and they were the ones who had bought the wrong machine. Software publishers were continually releasing new titles and public-domain material was overwhelming in the variety of applications and sheer numbers of files. Interest too was high, much needed to be discussed, learned and bantered around so each and every user could get just what they wanted out of their 8-bit machine.

In a sense, LA-ACE BBS was a microcosm of the world of Atari. Uploaded files to the board were consistently proportional to the number of downloaded files (about 10 downloads to 1 upload). The message bases were fresh with ideas, gossip, news and announcements of new products and BBSs. Between 300 and 350 weekly calls produced 200 downloads, 20 to 30 uploads and close to 100 new messages. The last five days (June 12 to 17) have produced just 100 calls, 50 downloads, no uploads and 14 new messages. I thought things might pick up when school let out....

My excitement too had waned. There seems to less work necessary to keep the board running. My two biggest chores used to be keeping pirated files and long-distance phone codes out of the BBS. This just doesn't seem to be a problem anymore. Maybe the late, great Atari hackers all went off to sail the Big Blue ocean (IBM)....

So what happened? Is the 8-bit Atari doomed to be a has-been or even worse, the never-was? Can Atari really pump new life into the 8-bit line with the introduction of an 80-column adapter? Tune in next August folks for the answers to these questions may become just too apparent. But lets get back to LA-ACE BBS and its microcosmic implications to the Atari world in general.

For a long time LA-ACE BBS stayed in the forefront of Atari computing. An ATR-8000 instead of an Atari 850 interface to increase disk storage to about three megabytes online. Then a hard drive increased the storage to eight megabytes online. Then the old Atari 400 was replaced with an Atari 800XL with 256k RAM. Basic XE replaced Basic XL to take advantage to the extra RAM. Up until that point I always seemed to have someone around who was willing to help out by doing some programming changes to improve the board. To this day, we have not taken advantage to the extra RAM. And with the introduction of the ST line of Atari computers, LA-ACE BBS is no longer the state-of-the-art.

Could it be then that it was the introduction of the ST and not Big Blue that started the decline of the 8-bit and LA-ACE BBS? I don't think so. Any computer is as good as the software written for it. The existing 8-bit libraries are adequate for most purposes. ST titles have a long way to go to catch up in sheer numbers although the speed, RAM and 80-column display makes what is available more practical and useful.

Apathy has played a great part in the overall decline of the board. Many times I have asked for feedback from the users and have gotten little response. It seems that all but the newest of users have downloaded what's worthwhile from the board and since there are little, if any, new files uploaded, they have no reason to call. Maybe I am to blame too. My 8-bit machine (with an old 80-column adapter) sits idly while I write this article on an

IBM. Am I a traitor to the Atari cause? If so, then most of our club's leadership are traitors since they have clones too. But we are all still here.

Nevertheless, I have made every effort to support the ST user on the BBS. After the introduction of the ST a message base was added to the board to promote interactive communication between ST users. ST download files are categorized as such, making it easy for a ST user to circumvent the plethora of 8-bit files in the download listings. Right after the introduction of the ST computer there was considerable activity in the ST message base and download sections, but that too has waned.

Even with all of this negativity I still feel that the LA-ACE BBS has a function. People still call, leave messages, download files and yes occasionally grace us with an upload.

I still remember the good old days, before there were disk-subscriptions to ANTIC or ANALOG, people would get their magazines and type all night and upload those new programs before most of us had a chance to sit down and read the issue. The die-hards who would call at all hours of the night--just to get through. Nowadays, I think people call LA-ACE BBS only when their favorite BBSs are busy.

A number of suggestions have been made to help LA-ACE BBS get back into the mainstream of modern-day computing and keep LA-ACE BBS and Atari from merely treading water in the Big Blue ocean. These suggestions have included changing to another 8-bit software package, OASIS maybe, and changing to SpartaDOS so that files are date-stamped. Some have suggested that we should change over to a ST, but is there really reliable BBS software for it and how well will it support the 8-bit users? Another suggestion has come about with the rumor of the Atari PC. Most of us believe that if Atari comes out with a PC clone, this computer could support all atari users better than any other alternative. But this is a very big IF. The LA-ACE BBS committee is still open for suggestions.

The previous paragraphs were written about a month ago [it is now July 23, 1987 (Michele's birthday by the way)] and would like to add an update. In the last month, the BBS has moved. The new number is 818-700-1652. During that move Tim has changed the ATR8000 hard disk interface to his much-faster 800XL expansion-bus hard disk interface. The speed of this new interface makes the RAMdisk virtually unnecessary. Data from the hard disk appears almost instantaneously on the screen. Plans to switch to SpartaDos and Oasis are moving along. Last, the entire hard disk has been formatted and there are currently no avaliable downloads. Our disk librarian, Wayne, has the entire BBS library and is sorting out all the bad files and will be returning a complete working library soon.

The other day Ira Goldstein called me and told me that he had just set up FoReM ST on his 1040 and was pleased with the improvements made since we ran "sister" versions of 8-bit FoReM BBS.

Oasis BBS has been ordered. All downloads will be good working files. The size of hard disk capacity has increased. The first few calls have come in to the BBS on the new phone number. We are all committed to Atari and our efforts as a user group make a difference. Maybe there is hope for Atari yet....

Certificate Maker Review
by Christopher Kelley - LA-ACE

This is my second try at writing this review. The first one got so long I had to re-do it entirely. I wish I could say it's because the program has too many features to list, but alas, it's because the program is shot full of problems. Retail price is $49, then you must send $12 to Springboard for a backup if you want one. The program is obviously intended for children (Regardless of what the side of the box says), and combining copy-protected software and small children is a disaster waiting to happen. You can make back ups to use as long as you boot the master, but it took me a full half-hour to do this, because they use hidden directory entries vital to the running of the program. It comes on two disks, and although you can copy both disks to one double-sided disk, I doubt if you could do this with only one disk drive. Of course, you must do tons of disk swapping if you are using only one single-sided drive. If anyone has bought this program, and cannot figure out how to make back-ups, please find me at the meeting, and I will try to explain it.

The program runs in color only, although that isn't mentioned anywhere in the documentation or on the package. A curiosity about this is that instead of the usual 'This program only runs in color' error message, it gives an 'Out of memory error'. Stranger still, the tittle screen can be seen in color or monochrome, so it seems that somewhere along the line, the program may have been intended to be used in either color or monochrome mode. Another odd problem is in printer drivers. They include printer drivers for printers I have never heard of, but not the Gemini series! I have an Epson, and so was able to use the program, but Gemini owners, BEWARE! Another problem is that you must install your printer every time you boot the program, even though it does write the printer configuration to the disk! Another glaring omission is in catalog they pack with the program, which doesn't list ANY

ST products. It does list Certificate Maker, but not the ST version.

What the program attempts to do is allow you to make your own certificates, a la Print Shop, but it doesn't do a very good job of it. You have 24 boarders, four fonts and two text sizes, and you have separate text sizes on separate lines, but you can only use one font on the certificate, even though the instructions claim otherwise. This brings up another problem. Certain lines, like the date line and signature line, allow you only so many spaces. The problem is that there is one screen they use to enter this information, but the actual line length varies, with no indication how long the line will be. This means you will be typing in your line, and you will hit the end without any warning. Added to that is the fact that the way they show you've hit the end of the line - erasing your last word - is very confusing.

The program is very disk-intensive, another 'feature' that does not mix well with copy-protected disks, and it is very slow about it. It puts up a message that says 'Processing ...' and sometimes I've wondered if the program has locked up or not, because it's taken so long, but it always returns to the main screen eventually. The only weird thing it did was fail to redraw a dialog box after running a printer test.

The only good things about this program is that the on-screen representation of the certificate is very good, the certificates themselves are very nice once you get them printed (it takes awhile), and the ability to print multiple certificates using a name list to put a separate name on each certificate. Of course, you can't design you own certificates, you must go with what they give you, and they'll be happy to sell you a disk with more certificates, boarders, and stickers for $34.

Overall, I'd have to say 'save your money'. The program simply isn't very good, and has problems which make it's use very frustrating. Maybe Broderbund will release Print Shop for the ST?

Review: Mail Order Monsters
By Douglas Kelley LA-ACE

Mail Order Monsters is one of several games just released for the 8-bit Atari by Electronic Arts. For a long time, EA has not made games for the Atari line, but due to a lot of pressure from software stores and consumers, they have begun again.

Upon opening the package, there is (of course) a disk and the manual. The manual is very easy to understand and will guide you step by step toward creating your monsters. When the disk boots you are presented with a nice title page and asked how many are playing (player vs. computer or player vs. player) and what level (beginner, intermediate, or tournament).

In the Beginner game, you choose one of 12 pregenerated monsters (called "morphs"), and you give it a name. The morph is then taken to the Battlefield for a battle to the death with the opponent (the morph the other player or the computer chose). This level allows you to experiment with changing weapons and (of course) combat.

The Intermediate level allows you to build your own monster. You are given 500 units of money (called Psychons) to build your creature. You choose one of 12 basic forms - ranging from a worm to a human to a dinosaur - each with its advantages and disadvantages and cost. From your remaining money you buy your morph weapons, rounds for the weapons, food and energy. When you think your morph is ready, you send him/her/it to the Battlefield (if you have 2 players, you then wait for the other player to make their selections). The Battlefield here is a little different. Player 1 gets to choose from three different contests (described later), and player 2 - or the computer if its a 1-player game - chooses from 16 types of terrain (artic to desert). The combat then begins.

The Tournament level is the hardest, but possibly also the most fun, especially if you have a lot of friends who like to play this game. In this level, you get to make an "owner" disk, and save your morph for future battles. You only get 250 Psychons to start, but you earn more (to upgrade and repair your morph, or even buying new morphs) by winning battles. The Battlefield is the same as Intermediate, with one addition: each player can choose one rule for the game, such as "no surrender" or "no gas attacks". You can, of course, make back-ups of your owner disk.

The Battlefield has three different types of combat: Destruction (the two morphs battle to the death), Capture the Flag (kill the opposing morph or find and touch 8 flags scattered around in a particular order), or The Horde (the two morphs join forces to destroy a bunch of computer controlled Hordlings - the winner being the Morph that kills the most). Beginners can only play Destruction, otherwise you get your choice. When you are first deposited onto the Battlefield, you find yourselves on the "big map". Your position and your opponent's (and the Hordlings if you are playing that) are shown as dots. You manuever your morph with your joystick, and when two dots come together the screen expands to show the two of them fighting. Now, you can see your creature in fairly good detail, and you control what it does with your joystick. Depending on certain qualities of your morph, you may attack the opposition only every so often, and when you do get to attack, these characteristics determine if you hit and how much damage you do.

In general, I like this game, but it does have a few disadvantages. The game does a lot of disk accessing when you are building your morph and equipping it, and since the disk is copy protected, you can't make a copy to protect the original. In combat, moving around on the "big map" is very slow (though once in close-up combat it gets pretty fast). When you are playing human vs. computer in the Hordling contest, when the computer meets a hordling, you have to sit around and watch the computer fight itself. In the other games there are "wandering monsters" and in Capture the Flag each flag is guarded, and when the computer player runs into them, you do get control of whatever its fighting, though.

The Panasonic 1091i Printer
By Justin Scott

I recently needed to upgrade my old Alphacom 81 printer. I
was looking around for a good printer that was Epson
compatible. At first, I wanted to get an Atari XMM801, but
since they aren't 100% compatible, I decided against it. I
eventually had it narrowed down to either a Star NX-10 or a
Panasonic.

I was all ready to buy the Star, but then I asked Joe Bolt
what he recommended. He said he liked the Panasonic 1091i
the best, since it was inexpensive and Epson compatible. I
started looking for the best price. I saw the retail price
of $429 and almost had a heart attack. I called Fedco and
found them there for $219, so I was down there quick to pick
one up. (When looking around for something, I have learned
that it pays to shop around!)

The Panasonic 1091i has been a GODSEND. It has all of the
features that I've always wanted like graphics, NORMAL PAPER
(my last printer used roll paper), and different type fonts
(NLQ, italics, etc.). Its near letter quality mode rivals
my dad's $2700 DEC LQP02 letter-quality printer.

The printer is usually a 9x9 pin, but in NLQ mode it is
18x18 pin. It comes standard with a 1K buffer. The printer
can imitate either an Epson RX-80 or an IBM PROprinter, and
it has built-in tractor and friction feeds. It has great
speed for the price-- it goes at an incredible 160 CPS in
draft mode, and 32 CPS in NLQ.

This printer is not small. It is 4" H, 15" L, and 10 1/2" W,
and it weighs 15.2 lbs. To use it, you will need an Atari
850 or equivalent. You will not have to worry about leaving
it plugged in because I leave mine plugged in 24 hours a
day, and it stays cool.

The few things I don't like about this printer can be fixed
easily. When the printer is OFF LINE (not capable of
receiving data), it will grab the paper, but it almost NEVER
puts it in straight. Usually, you need to re-align the
paper. To correct this problem, all you need to do is buy
tractor feed paper. Also, when you are printing things out
(of a word processor) the printer goes off-line prematurely.
What you have to do is hit the ON-LINE button until the
printer does a form-feed. It also is slightly loud, but not
too bad.

All in all, the Panasonic 1091i should be considered by
everyone who wants a printer. It has all of the features of
a good printer, and at a good price. If you are upgrading
to a better printer, or if this is your first one, I highly
recommend this printer.

Two C Compilers for the 8-Bits
By Douglas Kelley LA ACE

At last! The C language, a very powerful language that is rapidly becoming the standard language in business and programming, has come to the 8-bit Atari!

I recently got my hands on two C compilers: ACE C, which is in the public domain, and Lightspeed C from Clearstar Softechnologies ($39.95). Both compilers were written by the same man - Ralph Walden - and so are almost alike, but the Lightspeed C package has a lot more in it, as well as much better documentation.

The C compilers support: Character and integer types, pointers, single dimension arrays, and almost all of the C statements. Neither support structures, multidimensional arrays, pointer arrays, and floating point. One big difference between the two compilers is that ACE C does not have SCANF, which is a very commonly used C statement.

Did I say that they do not support floating point? Well, yes and no. The compilers don't support floating point implicitly (that is, you can't declare a floating point variable X), but both have routines whereby you declare a 6-character string to be a "pseudo - floating point variable" and then call a bunch of subroutines that allow you to transfer values to floating point, and do math with them, etc.

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Text samples of the Panasonic 1091i

This is in draft
This is in ITALICS!
This is SUPERSCRIPT

This is SUBSCRIPT
This is COMPRESSED
This is in PROPORTIONAL SPACING
This is EMPHASIZED
This is in DOUBLE
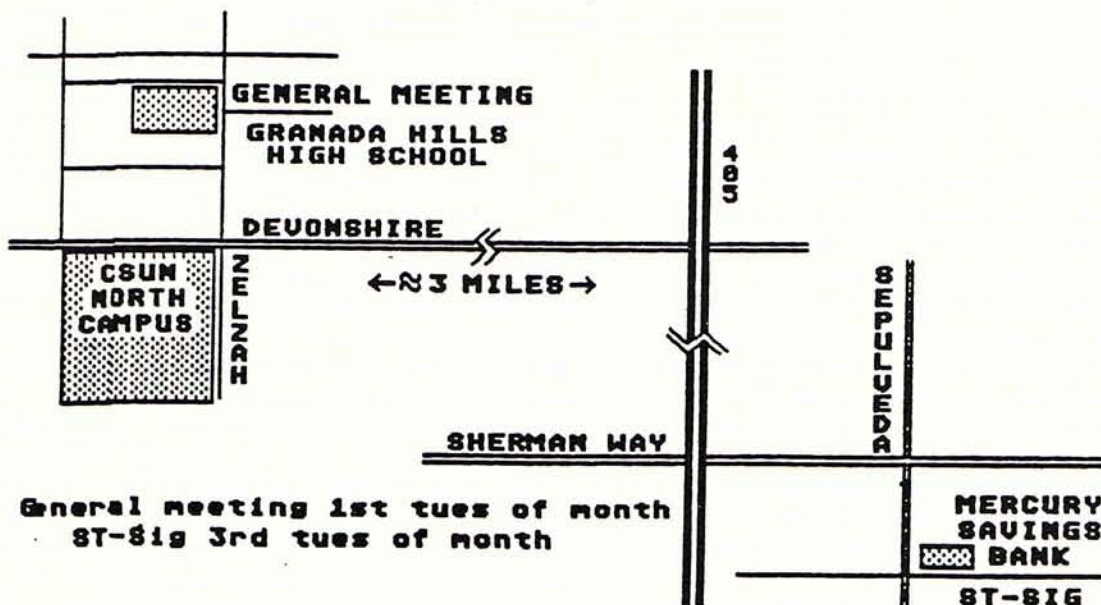This is UNDERLINED

This is in NEAR LETTER QUALITY

Now I also mentioned that the Lightspeed C package has a lot more than the public domain ACE C. The Lightspeed C package has 4 disk sides full of stuff. Side 1 not only has all of the programs required to compile your C programs (including a text editor and an optimizer), it also holds floating point and I/O routines for ACTION! and MAC/65. There is also a runtime package for ACTION! programs as well. Side 2 contains the source code to many of the programs on side 1, and a whole bunch of (uncompilied and compiled) C programs. All the compiled programs have the uncompiled source code. Side 3 hold a group of files for use with Spartados or other DOSes. Side 4 is in double density and has most of the programs found on sides 1 and 2.

About DOSes: Lightspeed uses its own DOS, and if you don't use their DOS, there are special programs you must use for compiling files. However, once you compile your programs and append the runtime file (it comes with the package, no extra charge), they are "stand-alone", and can be used with any DOS. Lightspeed DOS is the only thing I found bad about the package. It is over 100 sectors long and all it does is load programs for you to run - it can't even do directories unless you have a program called "DIR.COM" on the disk you want to do a directory of! ACE C does not seem to care what DOS you are using, although the documentation files do recommend OS/A DOS.

Another difference between the two is compiled file size. When I compiled a 26 sector C program, in ACE C the final program was 31 sectors long. The same 26 sector file compiled to a 24 sector final program with Lightspeed.

So, if you program in ACTION! or MAC/65 (or both), and want to learn C as well, you must get Lightspeed C. However, if you want to get your feet wet in C inexpensively, get ACE C.

Lightspeed C ($39.95) (206)863-8523
Clearstar Softtechnologies
1501 Wood Ave. Suite #36
Sumner, WA 98390

GENERAL MEETING
GRANADA HILLS
HIGH SCHOOL

DEVONSHIRE

CSUN
NORTH
CAMPUS

ZELZAH

←≈3 MILES→

405

SEPULVEDA

SHERMAN WAY

General meeting 1st tues of month
ST-Sig 3rd tues of month

MERCURY
SAVINGS
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